



INDIAN INSTITUTE OF TECHNOLOGY ROPAR

ADVERTISEMENT- Junior Research Fellow (JRF)

(Project No. CRG/2022/003768)

Applications are invited from highly motivated and eligible candidates for the following SERB funded project.

Project title: Development of novel vapor chamber for thermal management of microelectronics

Details of the PI (Principal Investigator):

Dr. Chander Shekhar Sharma,

Assistant Professor, Department of Mechanical Engineering, IIT Ropar, Rupnagar-140001, Punjab, INDIA

E-mail: chander.sharma@iitrpr.ac.in

Research Lab: www.chanderlab.com

Name of Position (1): Junior Research Fellow (JRF)

Duration: 3 years or the project completion date, whichever is earlier. The candidate will be appointed initially for one year and based on the performance, an extension will be given. *It will also be possible for the selected candidate to apply for Ph.D. Program as per existing institute rules.*

Emoluments: As per DST rules

Essential Qualifications: The applicant must meet at least one of the following two criteria:

- Master's degree in Mechanical Engineering / Aerospace Engineering / Chemical Engineering from a recognized institute and with exceptionally good academic record with a minimum CGPA of 7.0 on a 10.0 point scale (or 70% marks) + good GATE/NET score
- Bachelor's degree in Mechanical Engineering / Aerospace Engineering / Chemical Engineering from a recognized institute and with exceptionally good academic record with a minimum CGPA of 7.0 on a 10.0 point scale (or 70% marks) + good GATE/NET score

Desirable Qualities:

The candidate should have an extensive knowledge of Thermodynamics, Heat & Mass Transfer and Fluid Mechanics fundamentals. Candidate with prior exposure to experimental heat transfer and fluid mechanics, microfluidics, and surface micro and nano fabrication will be given preference.

How to Apply?

The applicant should send the following documents, *as a single PDF file*, through an **email** to chander.sharma@iitrpr.ac.in.

1. Completely filled application form given in the prescribed proforma (Annexure A)
2. Detailed Biodata with contact information of 3 references (email included)
3. Soft copies of all degree certificates and proof of GATE/NET score as applicable
4. 'Statement of purpose' (stating personals goals and research interests) (note more than 1 page)

The email must have the subject line: "**Application for the post of JRF (Contract) - SERB**". Last date of receipt of application: **25th August 2023**. Only shortlisted candidates will be called for interview.

Project description: Mobile computing devices such as smartphones and laptops have enhanced the access to information-technology enabled services in last two decades. High heat dissipation and the occurrence of thermal hotspots in the microprocessors used in these portable devices, combined with the small device form factor, pose a significant thermal management challenge. Vapor chambers constitute a promising approach to address this challenge. A vapor chamber transfers heat through the phase change of fluid and consists of an evaporator and condenser surface separated by a small distance. The evaporator transfers the heat dissipated from the heat source to the fluid. As a result, the fluid evaporates and the vapours are condensed on the condenser surface that is in turn cooled by a heat sink. This project aims to develop novel vapor chambers for efficient thermal management and involves interdisciplinary research. The successful candidate will have an opportunity to engage in a wide range of activities including fabrication, experimental investigations and theoretical/ numerical analysis.

Annexure A
APPLICATION PROFORMA

For JRF (Contract) for SERB project “Development of novel vapor chamber for thermal management of microelectronics”

Personal Details

Full Name (In Capital)				Affix Recent Passport Size Photo
Date of Birth (DD/MM/YY)		Gender (Male/Female)		
Marital Status (Married/Unmarried)		Nationality		
Address for Communication		Permanent Address		
Mobile/Phone no.		E-mail		

Education Background (From Matriculation Onward)

S. No.	Degree	Board / University	Regular/ Part time	Year	Division	% Marks /CGPA *

*[Please also submit softcopy of the semester-wise mark-sheets as well as softcopy of degree]

Qualifying Examination (GATE/CSIR/UGC/NET/ Others)

S. No.	Qualifying Examination	Branch	Year	Valid up to	Percentile	All India Rank	Any other information

Professional Experience (if any)

S. No.	Designation	Name of Organization	Period		Nature of Work
			From	To	

Research Publications (if any):

[Also attach softcopy of conference/journals papers separately, if applicable]

Awards, patents, prizes etc (if any):**Any other Relevant Information:****DECLARATION**

I hereby declare that I have carefully read the instructions and particulars supplied to me and that the entries made in this application form are correct to the best of my knowledge and belief. If selected, I promise to abide by the rules and discipline of the Institute.

I note that the decision of the Institute is final in regard to selection. The Institute shall have the right to expel me from the Institute at any time after my selection, provided it is found that I was admitted on false particulars furnished by me or my antecedents prove that my continuance in the Institute is not desirable. I agree that I shall abide by the decision of the Institute, which shall be final.

Place :.....

Date :

Signature of Applicant